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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/678,728	10/03/2003	Robert C. Lam	01132/01032	6127

43215 7590 10/31/2005

BORGWARNER INC.  
PATENT DEPARTMENT  
3850 HAMLIN ROAD  
AUBURN HILLS, MI 48326-2872

EXAMINER
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SANDERS, KRIELLION ANTIONETTE

ART UNIT	PAPER NUMBER
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1714

DATE MAILED: 10/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/678,728

Applicant(s)

LAM ET AL.

Examiner

Kriellion A. Sanders

Art Unit

1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 2/04, 6/05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 1- 22 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Lam et al, US Patent No. 5858883 and Lam et al, US Patent No. 5856244.

Applicant's claims pertain to a friction material comprising:

A.) A porous primary layer comprising a fibrous base material impregnated with at least one curable resin and

B.) A secondary layer on the surface of the primary layer comprising a carbonaceous material and friction modifying particles in an amount of 5-35% by weight of the fibrous base material.

The primary layer may include aramid fibers, cotton fibers, carbon fibers, graphite fibers and a filler material. The secondary layer may include a mixture of carbon particles and silica particles. A process for producing the friction material is also claimed.

Lam et al, '883 discloses a fibrous base material comprising a primary layer of less fibrillated *aramid* fibers, synthetic *graphite* and at least one filler material; and a secondary layer of carbon particles on at least one surface of the fibrous base material for use in a non-asbestos friction material. In certain embodiments of the invention, the fibrous base material is impregnated with a *phenolic or phenolic*-based resin material, including, for example, a mixture of a *phenolic* resin and a silicone resin. The fibrous base material comprises a primary layer of a plurality of less fibrillated *aramid* fibers, and has a freeness of at least about 450 on the Canadian Standard Freeness (CSF) index. The fibrous base material of the invention may comprise about 10 to about 50%, by weight less fibrillated *aramid* fiber; about 10 to about 35%, by weight, synthetic *graphite*; about 20 to about 45%, by weight, filler material; and about 0.2% to about 20%, by weight, carbon particles. The fibrous base material may also comprise about 20% to about 40% cotton fibers. The fibrous base material of the invention includes porous material ranging in mean average size from about 2.5 to about 12 microns in diameter. The friction material has readily available air voids of at least about 50%. Example E of the invention includes a fibrous base material comprising about 25% less fibrillated *aramid* fibers, about 20% synthetic *graphite*, about 25% diatomaceous earth, and about 30% cotton fibers and is impregnated with an epoxy-*phenolic* resin. Lam et al also discloses various methods for forming the friction materials of the invention, wherein the fibrous base material is impregnated with the *phenolic* or modified *phenolic* resin, preferably so that the impregnating resin material

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comprises about 45 to about 65 parts, by weight, per 100 parts, by weight, of the friction material. After the fibrous base material has been impregnated with the resin, the impregnated fibrous base material is heated to a desired temperature for a predetermined length of time to form the friction material. The heating cures the *phenolic* resin at a temperature of about 300 degree. F. When other resins are present, such as a silicone resin, the heating cures the silicone resin at a temperature of about 400.degree F. Thereafter, the impregnated and cured friction material is adhered to the desired substrate by suitable means. No patentable difference is readily ascertained between present and patented inventions. Since all parameters of applicant's invention are disclosed by patentee, it would have been obvious, if not fully anticipatory, to one of ordinary skill in the art to select the components set forth in the patent and employ them within the disclosed weight ratios and in the manner described by patentee. See col. 6, line 38 through col. 10, line 39.

Lam et al '244 provides teachings that are cumulative to those of Lam et al, US Patent No. 5858883. See col. 8, line 28 through col. 12, line29. The patent includes a retention aid that may be a sizing agent. In view of applicant's claim terminology, "comprising", such a retention aid is not prohibited in the present compositions. Applicant's invention does not provide a patentable difference over the invention of lam et al '244. Again, all parameters of applicant's invention are disclosed by patentee, it would have been obvious, if not fully anticipatory, to one of ordinary skill in the art, to select the components set forth in the patent and employ them within the disclosed weight ratios and in the manner described by patentee.


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kriellion A. Sanders whose telephone number is 571-272-1122.

The examiner can normally be reached on Monday through Thursday 6:30-7:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Kriellion A. Sanders  
Primary Examiner  
Art Unit 1714

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